IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	)	**RECEIVED**
William Christopher Hardy	)	NOV 0 5 2004
	)	
Serial No.: 10/084,013	)	Technology Center 2600
	)	Group Art Unit: 2665
Filed: February 27, 2002	)	Examiner: Daniel J. Ryman
	)	
For: METHOD AND SYSTEM FOR	)	
DETERMINING DROPPED FRAME	)	
RATES OVER A PACKET SWITCHED	)	
TRANSPORT	)	

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SUPPLEMENTAL APPEAL BRIEF

This Appeal Brief is submitted in response to the non-final Office Action, dated

August 5, 2004, and in support of the Appeal Brief filed in the U.S. Patent and Trademark

Office on June 28, 2004.

I.   REAL PARTY IN INTEREST

The real party in interest in this appeal is MCI, Inc., formerly known as

WorldCom, Inc.

II.   RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any related appeals, interferences, or judicial proceedings.

III.   STATUS OF CLAIMS

Claims 1-38 are pending in this application.

Claims 1, 7-9, 14-19, 22-28 and 33-36 have been rejected under 35 U.S.C.

§ 103(a) as being unpatentable over Randic (U.S. Patent No. 6,275,797).

Claims 2-4 and 11 have been rejected under 35 U.S.C. § 103(a) as being

unpatentable over Randic in view of Fitch (U.S. Patent No. 5,633,909).

Claims 10, 20, 29, 30 and 37 have been rejected under 35 U.S.C. § 103(a) as

being unpatentable over Randic in view of Newton ("Newton's Telecom Dictionary").

Claims 13, 21, 31, 32, and 38 have been rejected under 35 U.S.C. § 103(a) as

being unpatentable over Randic, in view of Fitch, and further in view of Hardy (U.S.

Patent No. 5,748,876).

Claims 5, 6 and 12 are objected to as being dependent upon a rejected base claim,

but would otherwise be allowable.

Claims 1-4, 7-11 and 13-38 are the subject of the present appeal. These claims

are reproduced in the Claim Appendix of this Appeal Brief.

IV.   STATUS OF AMENDMENTS

No amendments have been filed subsequent to the non-final Office Action of August 5, 2004.

V.   SUMMARY OF THE INVENTION

In the paragraphs that follow, each of the independent claims that is involved in this appeal will be recited followed in parenthesis by examples of where support can be found in the specification and drawings.

Claim 1 recites a method for detecting dropped packets in a network (1) including a packet switched network (16), the method comprising: establishing a telephonic connection between a first network location and a second network location (page 6, lines 10-12; Fig. 3, step 400); transmitting at least one set of N waveforms from the first network location, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms (page 6, lines 12-16; Fig. 3, step 404); receiving at least one telephonic signal at the second network location via a communications channel (page 6, lines 16-17; Fig. 3, step 406); processing the at least one telephonic signal to obtain a received sequence of values (page 6, lines 17-18; Fig. 3, steps 408-414); and comparing the received sequence of values to the predetermined sequence of transmitted values to

detect dropped packets without having access to packet switched network control data (page 6, lines 18-20; Fig, 3, steps 418-426).

Claim 22 recites a system (10, 10') for detecting dropped packets in a telecommunications network (1) including a packet switched network (16), the system comprising: a transmission unit configured to send at least one set of N waveforms over the telecommunications network (page 4, lines 5-8), each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms (page 4, lines 8-11); and a receiver unit operative to receive a telephonic signal from the telecommunications network (page 4, lines 11-12), the receiver also being configured to derive a received sequence of values from the telephonic signal, and compare the received sequence of values to the predetermined sequence of values to detect dropped packets, without having access to packet switched network transmission control data (page 4, lines 12-15).

Claim 33 recites a computer-readable medium having computer-executable instructions for performing a method (page 4, lines 16-17), the method comprising: transmitting at least one set of N waveforms from a first network location (page 4, lines 17-18), each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms (page 4, lines 18-21); receiving at least one telephonic signal at the second

network location via a communications channel (page 4, lines 21-22); processing the at

least one telephonic signal to obtain a received sequence of values (page 4, lines 22-23);

and comparing the received sequence of values to the predetermined sequence of

transmitted values to detect dropped packets without having access to packet switched

network control data (page 4, lines 23-25).

Claim 34 recites a computer-readable medium having computer-executable

instructions for performing a method (page 4, lines 26-27), the method comprising:

establishing a telephonic connection between a first network location and a second

network location (page 4, lines 27-28); and transmitting at least one set of N waveforms

from the first network location (page 4, line 28 through page 5, line 1), each transmitted

waveform including a waveform characteristic operative to assign a predetermined value

relative to other waveforms in the at least one set, such that a predetermined sequence of

values are assigned to packets carrying the N transmitted waveforms (page 5, lines 1-4).

Claim 35 recites a computer-readable medium having computer-executable

instructions for performing a method (page 5, lines 5-6), the method comprising:

receiving at least one telephonic signal at a second network location via the

communications channel (page 11, lines 13-14, Fig. 3, step 406); processing the at least

one telephonic signal to obtain a received sequence of values (page 5, lines 7-8); and

comparing the received sequence of values to a predetermined sequence of transmitted

values to detect dropped packets without having access to packet switched network

control data (page 5, lines 8-10; Fig, 3, steps 416-426).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 7-9, 14-19, 22-28 and 33-36 stand rejected under 35 U.S.C.

§ 103(a) as being unpatentable over Randic (U.S. Patent No. 6,275,797).

B. Claims 2-4 and 11 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Randic in view of Fitch (U.S. Patent No. 5,633,909).

C. Claims 10, 20, 29, 30 and 37 stand rejected under 35 U.S.C. § 103(a) as

being unpatentable over Randic in view of Newton ("Newton's Telecom Dictionary").

D. Claims 13, 21, 31, 32, and 38 stand rejected under 35 U.S.C. § 103(a) as

being unpatentable over Randic, in view of Fitch, and further in view of Hardy (U.S.

Patent No. 5,748,876).

VII. ARGUMENT

A. Rejection Under 35 U.S.C. § 103(a) Over Randic (U.S. Patent No.
6,275,797).

1. Claims 1, 7, 8, 14-19, 22-28 and 33.

The initial burden of establishing a prima facie basis to deny patentability to a

claimed invention is always upon the Examiner. In re Oetiker, 977 F.2d 1443, 24

USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the

Examiner must provide a factual basis to support the conclusion of obviousness. In re

Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). Based upon the objective

evidence of record, the Examiner is required to make the factual inquiries mandated by

Graham v. John Deere Co., 86 S.Ct. 684, 383 U.S. 1, 148 USPQ 459 (1966). The

Examiner is also required to explain how and why one having ordinary skill in the art

would have been led to modify an applied reference and/or combine applied references to

arrive at the claimed invention. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5

USPQ2d 1434 (Fed. Cir. 1988).

With these principles in mind, independent claim 1 recites a combination of

features of a method for detecting dropped packets in a network including a packet

switched network. The method includes establishing a telephonic connection between a

first network location and a second network location; transmitting at least one set of N

waveforms from the first network location, wherein each transmitted waveform includes

a waveform characteristic operative to assign a predetermined value relative to other

waveforms in the at least one set, such that a predetermined sequence of values are

assigned to packets carrying the N transmitted waveforms; receiving at least one

telephonic signal at the second network location via a communications channel;

processing the at least one telephonic signal to obtain a received sequence of values; and

comparing the received sequence of values to the predetermined sequence of transmitted

values to detect dropped packets without having access to packet switched network

control data.

Appellant submits that Randic does not disclose or suggest the claimed

combination of features, as recited in claim 1. For example, Randic does not disclose or

suggest transmitting at least one set of N waveforms from the first network location,

where each transmitted waveform includes a waveform characteristic operative to assign

a predetermined value relative to other waveforms in the at least one set, such that a

predetermined sequence of values are assigned to packets carrying the N transmitted

waveforms.

On page 3 of the non-final Office Action, dated August 5, 2004, the Examiner

asserted that <u>Randic</u> discloses transmitting at least one set of N waveforms from the first

network location, wherein each transmitted waveform includes a waveform characteristic

operative to assign a predetermined value relative to other waveforms in the at least one

set, such that a predetermined sequence of values are assigned to packets carrying the N

transmitted waveforms. Further, on the same page of the Office Action, the Examiner

admitted that <u>Randic</u> does not expressly disclose this feature, but instead, asserted that

this feature is implicit in the system of <u>Randic</u>. The Examiner relied on <u>Randic</u> at column

2, lines 40-36; column 3, lines 50-61; column 4 lines 33-36; and column 6, lines 20-43 to

support this assertion. Appellant respectfully disagrees with the Examiner.

<u>Randic</u> at column 2, lines 40-46 discloses:

> There can be more than one unique reference voice pattern with different
> voice properties. Each voice property, in turn, is differently susceptible to
> distortion from different distortion sources. Thus, by testing the voice path
> using different voice patterns, distortion patterns arise which can be used
> to identify the source of distortion in different network elements or
> segments.

Thus, <u>Randic</u> discloses that a number of unique voice patterns with different voice

properties may be used as reference voice patterns. By using different reference voice

patterns, distortion patterns can be used to identify the source of distortion in the network.

However, the above-cited portion of Randic fails to disclose transmitting at least one set

of N waveforms from the first network location, where each transmitted waveform

includes a waveform characteristic operative to assign a predetermined value relative to

other waveforms in the at least one set, such that a predetermined sequence of values are

assigned to packets carrying the N transmitted waveforms, as cited in claim 1.

> Randic at column 3, lines 50-61 discloses:

> Computers 14, 16, and 18 include an Automatic Voice Recognition
> ("AVR") system 24. The AVR system 24 recognizes speech in the
> digitized voice data packets provided in the voice test file 23 received at
> input terminals 15. The AVR system 24 compares the speech patterns in
> the transmitted voice test files 17A, 17B, and 17C with speech patterns of
> the voice test file 23 previously stored in the receiving computers 14, 16,
> and 18. The result of this comparison is voice path quality factors 27A,
> 27B and 27C. The AVR system 24 converts the digitized voice data packet
> received to speech and vice versa using one of the above-mentioned voice
> recognition software programs.

Thus, Randic discloses a speech recognition system that recognizes or interprets

speech in received digitized voice data packets. The speech recognition system compares

interpreted transmitted speech patterns with the interpreted received speech patterns.

However, the above-cited portion of Randic is completely silent regarding transmitting at

least one set of N waveforms from the first network location, where each transmitted

waveform includes a waveform characteristic operative to assign a predetermined value

relative to other waveforms in the at least one set, such that a predetermined sequence of

values are assigned to packets carrying the N transmitted waveforms, as cited in claim 1.

> Randic at column 4, lines 33-36 discloses:

> Voice test file 23, as mentioned above, is generated by a computer at step

40. Voice test file 23 contains common reference voice patterns or speech characteristics that test the integrity of voice paths 20, 21, 22, 35, 37.

Thus, <u>Randic</u> discloses generating a voice test file including a number of common reference voice patterns to test the integrity of a number of voice paths. However, the above-cited portion of <u>Randic</u> fails to disclose transmitting at least one set of N waveforms from the first network location, where each transmitted waveform includes a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms, as cited in claim 1.

<u>Randic</u> at column 6, lines 20-36 discloses:

An example of test method steps 46, 48, 50, and 51 is detailed in the block diagram shown in FIG. 4. Voice test file 23 is provided to AVR system 24. Voice test file 23 is interpreted by AVR system 24 to include the sentence "This is a test." Voice test file 17 is received at input terminal 15 of computer 14 and processed by AVR system 24. AVR system 24 recognizes the received voice test file 17 as the sentence "This is a beach." The interpreted voice test file 23 in file 54 is compared to the interpreted received voice test file 17 in file 52 by processor 40 in computer 14.

A voice path quality factor 27 is generated, in this example, by comparing the number of matching words in files 52 and 54. Since there are 3 matching words between the sentences "This is a test" and "This is a beach," the voice path quality factor is 3. Alternatively, voice path quality factor 27 can be expressed as a percentage of matching words or 75% in this example (3 out of 4 matching words).

Thus, <u>Randic</u> discloses that a previously stored voice test file (i.e., transmitted speech patterns) may be interpreted by the voice recognition program to include a sentence, such as, "This is a test." The received voice test file may be interpreted by the voice recognition software to include a sentence, such as, "This is a beach." <u>Randic</u> discloses a

voice path quality factor that can be expressed as a percentage of matching words. In the above example, the voice path quality factor is 75%. Appellant submits that the above-cited portion of Randic fails to disclose transmitting at least one set of N waveforms from the first network location, where each transmitted waveform includes a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms, as cited in claim 1.

Randic discloses transmitting speech patterns via the network and using a speech recognition system to interpret the received speech patterns into a sequence of words. The words corresponding to the originally sent speech patterns are compared to the words corresponding to the received speech patterns to determine a voice path quality factor, such as the percentage of words in the interpreted received speech pattern that match the words of the interpreted originally sent speech pattern. Appellant submits that one of ordinary skill in the art would understand that speech may vary in terms of amplitude, phase, or duration. If speech recognizers were sensitive to such variations, it would be difficult, if not impossible, for speech recognizers to work properly. Therefore, for example, a speech recognizer could interpret a number of speech patterns that vary in amplitude, phase, or duration as, "This is a test." As a result, in the system of Randic, a wide variation of received speech patterns may be interpreted to match the interpreted received originally sent voice test file.

Appellant submits that the Examiner appears to be suggesting that <u>Randic</u>

discloses words being transmitted as at least one set of N waveforms and that the

waveforms include a waveform characteristic (e.g., a word) operative to assign a

predetermined value relative to other waveforms in the at least one set (e.g., a particular

sequence of words). However, <u>Randic</u> is completely silent regarding a disclosure or

suggestion to transmit words or sequences of words. <u>Randic</u> discloses transmitting

speech patterns, which are received and interpreted into words by a speech recognizer.

As mentioned above, a number of variations of speech patterns can be interpreted by a

speech recognizer to a particular sequence of words. Therefore, <u>Randic</u> does not disclose

or suggest that each transmitted waveform includes a waveform characteristic operative

to assign a <u>predetermined value relative to other waveforms</u> in the at least one set of N

waveforms, such that <u>a predetermined sequence of values are assigned to packets carrying</u>

<u>the N transmitted waveforms</u>, as required by claim 1. Assuming that each transmitted

waveform of <u>Randic</u> includes a waveform characteristic operative to assign a value

relative to other waveforms (a point which Appellant does not concede), a predetermined

value cannot be assigned relative to other waveforms because a number of different

transmitted speech patterns may be interpreted by a speech recognition system to a

particular grouping of words. Therefore, <u>Randic</u> cannot disclose or suggest that a

predetermined value relative to other waveforms in the at least one set of N waveforms

are assigned, such that a predetermined sequence of values are assigned to packets

carrying the N transmitted waveforms, as required by claim 1.

On page 4 of the Office Action, the Examiner admitted that <u>Randic</u> does not

expressly disclose comparing the received sequence of values to the predetermined

sequence of transmitted values to detect dropped packets without having access to packet

switched network control data, as recited in claim 1. The Examiner asserted that

comparing is used to determine a path quality factor, which is used to determine problem

areas in a packet communication network resulting in packet loss. On page 5 of the

Office Action, the Examiner further asserted that it would be obvious to one of ordinary

skill in the art at the time of the invention to compare the received sequence of values to

the predetermined sequence of transmitted values to detect dropped packets without

having access to packet switched network control data. Appellant disagrees.

Appellant submits that <u>Randic</u> does not disclose or suggest comparing a received

sequence of values to the predetermined sequence of transmitted values to detect dropped

packets without having access to packet switched network control data, as required by

claim 1. Instead, <u>Randic</u> discloses receiving speech patterns which are then interpreted

into a sequence of words by a speech recognizer (<u>Randic</u>, at column 6, lines 19-28). As

previously mentioned, one of ordinary skill in the art would understand that a speech

recognizer would interpret a number of variations of the received speech patterns into a

particular sequence of words. <u>Randic</u> discloses comparing the sequence of words

interpreted from the received speech patterns to the interpreted sequence of words

interpreted by a speech recognizer from the originally sent speech pattern (<u>Randic</u>, at

column 6, lines 19-28). However, as explained previously, <u>Randic</u> does not disclose or

suggest that the transmitted waveforms include a waveform characteristic operative to

assign a predetermined value relative to other waveforms in the at least one set of N

waveforms, such that a predetermined sequence of values are assigned to packets carrying

the N transmitted waveforms, as required by claim 1. Therefore, Randic cannot disclose

or suggest comparing the received sequence of values to the predetermined sequence of

transmitted values to detect dropped packets without having access to packet switched

network control data, as required by claim 1.

Accordingly, it is respectfully submitted that claims 1, 7-8, 14-19, 22-28, and 33

are patentable over Randic. Reversal of the rejection of claims 1, 7-8, 14-19, 22-28, and

33 is respectfully requested.

2.   Claim 9

Initially, claim 9 depends from claim 1 and is, therefore, not obvious in view of

Randic for at least the reasons provided with respect to claim 1. Dependent claim 9

further recites that each predetermined value includes a predetermined bit pattern.

On page 9 of the Office Action, the Examiner admitted that Randic does not

expressly disclose that each predetermined value includes a predetermined bit pattern.

However, the Examiner asserted that Randic, at column 6, lines 9-36 discloses that each

predetermined value includes a predetermined word value. Appellant disagrees.

Randic, at column 6, lines 9-36 discloses:

AVR system 24 recognizes speech patterns in both the originally sent
voice test file 23 and the transmitted voice test file 17 and compares, at

step 48, the interpreted speech patterns in transmitted test file 17 with the speech patterns of the originally sent voice test file 23. The comparison of the received speech patterns in test file 17 with voice test file 23 preferably includes determining the number of matching letters, words, or sentences between transmitted voice file 17 and stored voice test file 23. The comparison of both of these files generates a voice path quality factor 27 at step 52.

An example of test method steps 46, 48, 50, and 51 is detailed in the block diagram shown in FIG. 4. Voice test file 23 is provided to AVR system 24. Voice test file 23 is interpreted by AVR system 24 to include the sentence "This is a test." Voice test file 17 is received at input terminal 15 of computer 14 and processed by AVR system 24. AVR system 24 recognizes the received voice test file 17 as the sentence "This is a beach." The interpreted voice test file 23 in file 54 is compared to the interpreted received voice test file 17 in file 52 by processor 40 in computer 14.

A voice path quality factor 27 is generated, in this example, by comparing the number of matching words in files 52 and 54. Since there are 3 matching words between the sentences "This is a test" and "This is a beach," the voice path quality factor is 3. Alternatively, voice path quality factor 27 can be expressed as a percentage of matching words or 75% in this example (3 out of 4 matching words).

Thus, <u>Randic</u> discloses using a speech recognizer to interpret received speech patterns and comparing the sequence of words of the interpreted received speech patterns to a sequence of words of the interpreted originally transmitted speech patterns.

According to claim 1, from which claim 9 depends, the predetermined value is relative to other waveforms in the at least one set of N transmitted waveforms. With respect to claim 1, <u>Randic</u> fails to disclose or suggest that the transmitted waveforms include a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set of transmitted N waveforms, such that a predetermined sequence of values are assigned to packets carrying the N transmitted

waveforms, as required by claim 1. Because Randic fails to disclose or suggest a

waveform characteristic operative to assign a predetermined value relative to other

waveforms in the at least one set of transmitted N waveforms, Randic cannot disclose or

suggest that each predetermined value includes a predetermined bit pattern.

Accordingly, it is respectfully submitted that claim 9 is not obvious in view of

Randic under 35 U.S.C. § 103. Reversal of the rejection of claim 9 is respectfully

requested.

3.   Claim 34.

Independent claim 34 recites a computer-readable medium having computer-

executable instructions for performing a method. The method includes establishing a

telephonic connection between a first network location and a second network location,

and transmitting at least one set of N waveforms from the first network location, each

transmitted waveform including a waveform characteristic operative to assign a

predetermined value relative to other waveforms in the at least one set, such that a

predetermined sequence of values are assigned to packets carrying the N transmitted

waveforms.

Randic does not disclose or suggest transmitting at least one set of N waveforms

from the first network location, where each transmitted waveform includes a waveform

characteristic operative to assign a predetermined value relative to other waveforms in the

at least one set, such that a predetermined sequence of values are assigned to packets

carrying the N transmitted waveforms, as required by claim 34.

On pages 3 and 4 of the Office Action, the Examiner admitted that <u>Randic</u> does

not expressly disclose this feature, but asserted that this feature is implied in the system of

<u>Randic</u>. Appellant respectfully disagrees, and submits that <u>Randic</u> does not disclose or

suggest this feature for reasons similar to those provided with respect to claim 1.

Accordingly, it is respectfully submitted that claim 34 is not obvious in view of

<u>Randic</u> under 35 U.S.C. § 103. Reversal of the rejection of claim 34 is respectfully

requested.

4.   Claims 35 and 36.

Independent claim 35 recites a computer-readable medium having computer-

executable instructions for performing a method. The method includes receiving at least

one telephonic signal at the second network location via a communications channel;

processing the at least one telephonic signal to obtain a received sequence of values; and

comparing the received sequence of values to a predetermined sequence of transmitted

values to detect dropped packets without having access to packet switched network

control data.

Appellant submits that <u>Randic</u> does not disclose or suggest comparing the

received sequence of values to a predetermined sequence of transmitted values to detect

dropped packets without having access to packet switched network control data, as required by claim 35.

On page 4 of the Office Action, the Examiner admitted that Randic fails to disclose this feature. However, on page 5 of the Office Action, the Examiner asserted that this feature is obvious in view of Randic. Appellant submits that claims 34 and 35 are not obvious in view if Randic, at least for reasons similar to those provided with respect to claim 1.

Accordingly, it is respectfully submitted that claims 35 and 36 are not obvious in view of Randic under 35 U.S.C. § 103. Reversal of the rejection of claims 35 and 36 is respectfully requested.

B.   Rejection Under 35 U.S.C. § 103(a) Over Randic (U.S. Patent No. 6,275,797) in view of Fitch (U.S. Patent No. 5,633,909).

1.   Claims 2-4 and 11.

Claims 2-4 and 11 depend from claim 1, which Appellant submits is patentable in view of Randic for the reasons provided with respect to claim 1. Appellant submits that the disclosure of Fitch does not remedy the deficiencies in the disclosure of Randic with respect to claim 1.

Accordingly, it is respectfully submitted that claims 2-4 and 11 are not obvious in view of Randic and Fitch under 35 U.S.C. § 103. Reversal of the rejection of claims 2-4 and 11 is respectfully requested.

C. **Rejection Under 35 U.S.C. § 103(a) Over <u>Randic</u> (U.S. Patent No. 6,275,797) in view of <u>Newton</u> ("Newton's Telecom Dictionary").**

1. Claims 10, 20, 29, and 30.

Claims 10 and 20 depend from claim 1 and claims 29 and 30 depend from claim 22. Appellants submit that claims 10 and 20 are patentable over <u>Randic</u> for at least the reasons provided with respect to claims 1 and 22. Appellants further submit that claims 29 and 30 are patentable over <u>Randic</u> for reasons similar to those provided with respect to claim 1.

Appellant submits that <u>Newton</u> fails to satisfy the deficiencies of <u>Randic</u> with respect to claims 1 and 22. Accordingly, it is respectfully submitted that claims 10, 20, 29, and 30 are not obvious in view of <u>Randic</u> and <u>Newton</u> under 35 U.S.C. § 103. Reversal of the rejection of claims 10, 20, 29, and 30 is respectfully requested.

2. Claim 37.

Claim 37 depends from claim 35, which is patentable over <u>Randic</u> for the reasons provided with respect to claim 35. Appellant submits that <u>Newton</u> fails to satisfy the deficiencies of <u>Randic</u> with respect to claim 35. Accordingly, it is respectfully submitted that claim 37 is not obvious in view of <u>Randic</u> and <u>Newton</u> under 35 U.S.C. § 103. Reversal of the rejection of claim 37 is respectfully requested.

D.   Rejection Under 35 U.S.C. § 103(a) Over <u>Randic</u> (U.S. Patent No.

6,275,797) in view of <u>Fitch</u> (U.S. Patent No. 5,633,909) and further in view of <u>Hardy</u>

(U.S. Patent No. 5,748,976).

1.   Claims 13, 21, 31, and 32.

Claims 13 and 21 depend from claim 1 and claims 31 and 32 depend from claim

22. Appellant submits that claims 13 and 21 are patentable over <u>Randic</u> for at least the

reasons provided with respect to claims 1 and 22. Appellant further submits that claims

31 and 32 are patentable over <u>Randic</u> for at least reasons similar to those provided with

respect to claim 1.

Appellant submits that the disclosure of <u>Fitch</u> and <u>Hardy</u> do not remedy the

deficiencies in the disclosure of <u>Randic</u> with respect to claims 1 and 22. Accordingly, it

is respectfully submitted that claims 13, 21, 31, and 32 are not obvious in view of <u>Randic</u>,

<u>Fitch</u>, and <u>Newton</u> under 35 U.S.C. § 103. Reversal of the rejection of claims 13, 21, 31,

and 32 is respectfully requested.

2.   Claim 38.

Claim 38 depends from claim 35. Appellant submit that claim 38 is patentable

over <u>Randic</u> for at least the reasons provided with respect to claim 35.

Appellant further submits that the disclosures of <u>Fitch</u> and <u>Hardy</u> do not remedy

the deficiencies in the disclosure of <u>Randic</u> with respect to claim 35. Accordingly, it is
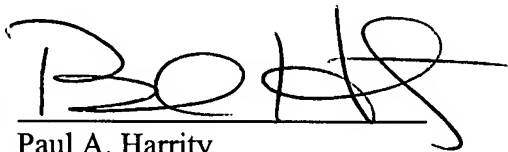
respectfully submitted that claim 38 is not obvious in view of <u>Randic</u>, <u>Fitch</u>, and <u>Hardy</u> under 35 U.S.C. § 103. Reversal of the rejection of claim 38 is respectfully requested.

VIII. <u>CONCLUSION</u>

In view of the foregoing arguments, Appellant respectfully solicits the Honorable Board to reverse the Examiner's rejection of claims 1-4, 7-11 and 13-38 under 35 U.S.C. § 103.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 13-2491 and please credit any excess fees to such deposit account.

Respectfully submitted,

By: _____
Paul A. Harrity
Reg. No. 39,574

Date: November 3, 2004

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CLAIM APPENDIX

1.   A method for detecting dropped packets in a network including a packet switched network, the method comprising:

establishing a telephonic connection between a first network location and a second network location;

transmitting at least one set of N waveforms from the first network location, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms;

receiving at least one telephonic signal at the second network location via a communications channel;

processing the at least one telephonic signal to obtain a received sequence of values; and

comparing the received sequence of values to the predetermined sequence of transmitted values to detect dropped packets without having access to packet switched network control data.

2.   The method of claim 1, wherein the representative waveform characteristic is a peak power level.

3.   The method of claim 1, wherein the representative waveform characteristic is an average power level.

4.   The method of claim 1, wherein each waveform in the set of N waveforms includes a representative waveform characteristic corresponding to one of N peak power levels.

7.   The method of claim 1, wherein each waveform includes a first segment and a second segment.

8.   The method of claim 7, wherein the second segment includes the representative waveform characteristic.

9.   The method of claim 1, wherein each predetermined value includes a predetermined bit pattern.

10.   The method of claim 1, where in the representative waveform characteristic is a waveform corresponding to a CELP symbol.

11.   The method of claim 1, wherein the representative waveform characteristic includes a frequency of the waveform.

13.   The method of claim 1, wherein the representative waveform characteristic includes a semantically encoded waveform.

14.   The method of claim 1, wherein the step of processing includes the step of dividing the at least one telephonic signal into received waveform sections having a duration substantially identical to the transmitted waveform.

15.   The method of claim 14, wherein the step of processing further comprises:
        analyzing each received waveform section to extract a received waveform characteristic;
        assigning each received waveform section a received value based on the received waveform characteristic; and

generating a sequence of received values based on the step of assigning to obtain the received sequence of values.

16. The method of claim 15, wherein a deviation between the predetermined sequence of values and the sequence of section values corresponds to a dropped packet.

17. The method of claim 16, wherein a deviation between the predetermined sequence of values and the sequence of section values includes a missing section value, the missing section value corresponding to a dropped packet.

18. The method of claim 16, wherein a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition corresponding to a dropped packet.

19. The method of claim 16, wherein a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition indicating a packet loss concealment routine operating in the packet switched network.

20. The method of claim 14, wherein the step of processing further comprises:
comparing each received waveform section to a plurality of CELP waveform patterns;
assigning a symbol number to the received waveform section based on the step of comparing each received waveform section; and
generating a sequence of received values using the symbol numbers of the received waveform sections, to thereby obtain the received sequence of values.

21.   The method of claim 14, wherein the step of processing further comprises:

comparing each received waveform section to a plurality of semantically encoded waveform patterns;

assigning a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and

generating a sequence of section values using the bit-pattern of the received waveform sections, to thereby obtain the received sequence of values.

22.   A system for detecting dropped packets in a telecommunications network including a packet switched network, the system comprising:

a transmission unit configured to send at least one set of N waveforms over the telecommunications network, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms; and

a receiver unit operative to receive a telephonic signal from the telecommunications network, the receiver also being configured to derive a received sequence of values from the telephonic signal, and compare the received sequence of values to the predetermined sequence of values to detect dropped packets, without having access to packet switched network transmission control data.

23.   The system of claim 22, wherein the transmission unit further comprises:

a computer-readable medium for storing data representing the at least one set of N waveforms;

a processor coupled to the computer readable medium, the processor being programmed to retrieve the data from the computer readable medium; and

a codec device for converting the data into a signal suitable for transmission over the telecommunications network.

24.   The system of claim 22, wherein the receiver unit further comprises:

a computer-readable medium;

a codec device for converting a received telephonic signal into digitized data suitable for storing in a file in the computer-readable medium; and

a processor programmed to,

divide the digitized data in the file into received waveform sections,

analyze each received waveform section to extract a received waveform characteristic,

assign each received waveform section a received value based on the received waveform characteristic, and

generate a sequence of received values based on the step of assigning, to thereby obtain the received sequence of values.

25.   The method of claim 24, wherein a deviation between the predetermined sequence of values and the sequence of section values corresponds to a dropped packet.

26.   The method of claim 25, wherein a deviation between the predetermined sequence of values and the sequence of section values includes a missing section value, the missing section value corresponding to a dropped packet.

27.   The method of claim 24, wherein a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition corresponding to a dropped packet.

28.   The method of claim 24, wherein a deviation between the predetermined sequence of values and the sequence of section values includes a repetition of at least one section value, the repetition indicating a packet loss concealment routine operating in the packet switched network.

29.   The system of claim 24, wherein the processor is further configured to:

compare each received waveform section to a plurality of CELP waveform patterns;

assign a symbol number to the received waveform section based on the step of comparing each received waveform section; and

generate a sequence of section values using the symbol numbers of the received waveform sections.

30.   The system of claim 29, wherein a section waveform characteristic is a waveform corresponding to a CELP symbol.

31.   The system of claim 24, wherein the signal processor is further configured to:

compare each received waveform section to a plurality of semantically encoded waveform patterns;

assign a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and

generate a sequence of section values using the bit-pattern of the received waveform sections.

32.   The system of claim 31, wherein a section waveform characteristic is a semantically encoded waveform.

33.   A computer-readable medium having computer-executable instructions for performing a method, the method comprising:

transmitting at least one set of N waveforms from a first network location, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a

predetermined sequence of values are assigned to packets carrying the N transmitted waveforms;

receiving at least one telephonic signal at the second network location via a communications channel;

processing the at least one telephonic signal to obtain a received sequence of values; and

comparing the received sequence of values to the predetermined sequence of transmitted values to detect dropped packets without having access to packet switched network control data.

34.   A computer-readable medium having computer-executable instructions for performing a method, the method comprising:

establishing a telephonic connection between a first network location and a second network location; and

transmitting at least one set of N waveforms from the first network location, each transmitted waveform including a waveform characteristic operative to assign a predetermined value relative to other waveforms in the at least one set, such that a predetermined sequence of values are assigned to packets carrying the N transmitted waveforms.

35.   A computer-readable medium having computer-executable instructions for performing a method, the method comprising:

receiving at least one telephonic signal at a second network location via the communications channel;

processing the at least one telephonic signal to obtain a received sequence of values; and

comparing the received sequence of values to a predetermined sequence of transmitted values to detect dropped packets without having access to packet switched network control data.

36.   The method of claim 35, wherein the step of processing further comprises:

analyzing each received waveform section to extract a received waveform characteristic;

assigning each received waveform section a received value based on the received waveform characteristic; and

generating a sequence of received values based on the step of assigning to obtain the received sequence of values.

37.   The method of claim 35, wherein the step of processing further comprises:

comparing each received waveform section to a plurality of CELP waveform patterns;

assigning a symbol number to the received waveform section based on the step of comparing each received waveform section; and

generating a sequence of received values using the symbol numbers of the received waveform sections, to thereby obtain the received sequence of values.

38.   The method of claim 35, wherein the step of processing further comprises:

comparing each received waveform section to a plurality of semantically encoded waveform patterns;

assigning a bit-pattern to the received waveform section based on the step of comparing each received waveform section; and

generating a sequence of section values using the bit-pattern of the received waveform sections, to thereby obtain the received sequence of values.